



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/646,734

08/25/2003

Klaus Moeller

23390-000121/US

1155

30593

7590

08/24/2009

HARNESS, DICKEY & PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

EXAMINER

LAO, LUN S

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

08/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/646,734

**Applicant(s)**

MOELLER ET AL.

**Examiner**

LUN-SEE LAO

**Art Unit**

2614

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 108-119 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 108-119 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **3DETAILED ACTION**

#### ***Introduction***

1. This action is in response to the amendment filed on 05-26-2009. Claims 113 and 115 have been amended and Claims 1-107 have been cancelled. Claims 108-119 are pending.

#### ***Terminal Disclaimer***

2. The terminal disclaimers filed on 06-08-2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on 09/791802 and 10/618635 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 108-118 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orfield (US PAT. 4,319,088) in view of Shdema et al (US 2002/0072816).

Consider claim 108 Orfield teaches a sound masking system for masking sound in a physical environment, said sound masking system comprising (see fig.3):

a communication network for said physical environment (see fig.3);

a plurality of sound masking units (see fig.3(14,16)), at least some of said sound masking units including a circuit (see figs.1-2) configured for a sound masking signal generator(20) and a communication interface(by jack and potentiometers) for coupling to said communication network for receiving a plurality of control signals over said communication network including a masking volume signal(22,48) and a masking frequency signal(see fig.1,2(24,46)), and said sound masking signal generator(see fig.1 (14)) being responsive to said masking volume signal(22,48 in fig.1) and said sound masking frequency signal (24, 46) for generating a sound masking output signal(26), said sound masking output signal having a volume derived from said masking volume signal(22,48) and a frequency characteristic derived from said sound masking frequency signal(see figs 1-2 (24,46)); a control unit (14) configured to generate said control signals including said masking volume signal(22,48) and said masking frequency signal(24 and see col.3 line 15-col 4 line 62); but Orfield does not expressly disclose a digital processor receiving and transmitting control signals over said communication network; and a control unit, said control unit having a communication interface for coupling to said communication network for transmitting said control signals to selectively control operation of said plurality of sound masking units.

Shdema discloses a digital processor receiving and transmitting control signals over said communication network (see figs 1-5) and an audio speaker system network comprising a plurality of speaker units including a communication interface for coupling said speaker units(114) (i.e. sound masking units) to said communication network for receiving and transmitting control signals over said communication network (Fig. 1;

page 3, [0028]-[0030]); and a control unit(see fig.2 102), said control unit having a network interface for coupling said control unit to said communication network for transmitting control signals over said communication network to said speaker units (i.e. sound masking units), and said control signals including signals for selectively controlling the operation of said sound masking units (Fig. 1 and see page 4 [0032]-[0045]) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Orfield with the teaching of Shdema to utilize a audio system for use in a speaker network system (such as the speaker network system of Orfield) comprising: a control unit to transmit control data (audio data does not need to be transmitted to the speaker unit because the speaker unit of Orfield comprising a sound generator which provide an audio data to a digital signal processor) to a plurality of speaker units (i.e. sound masking units), wherein the speaker unit comprising a receiver for receiving the control data and a transmitter for transmitting status and/or control information from the sound masking unit to the control unit in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound

delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Orfield with the teaching of Shdema does not need to make adjustments through potentiometers, which are on the sound masking unit located in the ceiling, it can be adjusted by utilizing the control unit which allow an operator to make adjustments remotely to only the selected sound masking units in the network, or in multiple networks or zones, rather than all speakers in a network or zone for more convenience for user in order to using processor and software and control unit to control the mask network.

Consider claim 109 Orfield as modified by Shdema teaches the sound masking system, wherein said sound masking unit includes an address component for recognizing control signals intended for the sound masking unit associated with said address component(in Shdema, see figs 1-4 and see page 9[0104]-[0108]).

Consider claim 110, Orfield discloses the plurality of sound masking units are associated with a plurality of sound masking zones, each sound masking unit being associated with one of the plurality of sound masking zones, and said sound masking units providing sound masking for the associated sound masking zone independently of said other sound masking zones (see figs 1-4 and col. 4 line 65-col. 5 line 67).

Consider claim 111 Orifield as modified discloses the sound masking system, wherein said sound masking units associated with each of said sound masking zones provide a sound masking output tailored for said associated sound masking zone and said sound masking output being based on said masking volume and said masking frequency signals (see figs 1-4 and col. 4 line 65-col. 5 line 67).

Consider claim 112 Orifield teaches that the sound masking system, further comprising a plurality of zones, and one or more of said sound masking units being configured for one or more of said zones (see figs 1-4 and col. 4 line 65-col. 5 line 67).

Consider claim 113, as best understood with regards to the 112, first paragraph problem mentioned above, Orifield as modified discloses the sound masking system, wherein said zones includes one or more of a sound masking zone, a timer zone, and a switch zone (see figs 1-4 and col. 4 line 65-col. 5 line 67).

Consider claim 114 Orifield teaches a sound masking system for controlling the ambient noise in a physical environment, said sound masking system comprising (see figs. 3-4):

- a communication network for said physical environment (see figs. 3-4);

- a plurality of sound masking units(14,16), at least some of said sound masking units including a sound masking generator (20) comprising a circuit (see figs.1-2) configured to generate a sound masking signal and a communication interface (by jack and potentiometers) for coupling to said communication network for receiving one or more control signals over said communication network including a masking volume signal((see fig.1 (22,48)) and a masking frequency signal (24,46), and said sound

masking generator (14) being responsive to said masking volume signal and said sound masking frequency signal for generating said sound masking signal(see figs 1-2); a control unit (14) configured to generate said one or more control signals including said masking volume signal (22,48) and said masking frequency signal (24,46 and see col.3 line 15-col 4 line 62); and a plurality of zones, and one or more of said sound masking units being configured for one or more of said plurality of zones(see figs 1-4 and col. 4 line 65-col. 5 line 67); but Orfield does not expressly disclose a processor receiving and transmitting control signals over said communication network; and a control unit said control unit having a communication interface for coupling to said communication network for transmitting said one or more control signals to selectively control operation of said plurality of sound masking units.

Shdema discloses a processor receiving and transmitting control signals over said communication network (see figs 1-5) and an audio speaker system network comprising a plurality of speaker units including a communication interface for coupling said speaker units(114) (i.e. sound masking units) to said communication network for receiving and transmitting control signals over said communication network (Fig. 1; page 3, [0028]-[0030]); and a control unit(see fig.2 102), said control unit having a network interface for coupling said control unit to said communication network for transmitting control signals over said communication network to said speaker units (i.e. sound masking units), and said control signals including signals for selectively controlling the operation of said sound masking units (Fig. 1 and see page 4 [0032]-[0045]) in order to allow an operator to remotely control the plurality of speaker units,



which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Orfield with the teaching of Shdema to utilize a audio system for use in a speaker network system (such as the speaker network system of Orfield) comprising: a control unit to transmit control data (audio data does not need to be transmitted to the speaker unit because the speaker unit of Orfield comprising a sound generator which provide an audio data to a digital signal processor) to a plurality of speaker units (i.e. sound masking units), wherein the speaker unit comprising a receiver for receiving the control data and a transmitter for transmitting status and/or control information from the sound masking unit to the control unit in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore, Orfield as modified does not need to make adjustments through potentiometers, which are on the sound masking unit located in the ceiling, it can be adjusted by utilizing the control unit which

allow an operator to make adjustments remotely to only the selected sound masking units in the network, or in multiple networks or zones, rather than all speakers in a network or zone for more convenience for user in order to using processor and software and control unit to control the mask network.

Consider claim 115, as best understood with regards to the 112, first paragraph problem mentioned above, Orfield as modified discloses the sound masking system, wherein said zones include one or more of a sound masking zone, a non-masking zone, a timer zone, and a switch zone (see figs 1-4 and col. 4 line 65-col. 5 line 67).

Consider claim 116 Orfield teaches a networkable sound masking device comprising: an interface configured to interfacing to a network (see figs 3-4); a circuit (see figs 1-2) configured to receive one or more control signals from said interface (by jack and potentiometers), said one or more control signals being intended for the networkable sound masking device and said one or more control signals (46,48) comprising a masking volume signal (see fig.1 (22,48)) and a masking frequency signal(24,46 and see col.3 line 15-col 4 line 62); said circuit being configured to generate a sound masking signal in response to said masking frequency signal; and an output stage configured to output said sound masking signal(see figs 1-4 and col. 4 line 65-col. 5 line 67) but Orfield does not expressly discloses a processor receiving and transmitting control signals over said communication network.

However, Shdema discloses a processor receiving and transmitting control signals over said communication network (see figs 1-5 and page 4 [0039]-[0044]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Shdema into Orfield to Provide more efficiency mask system by using a processor and software control.

Consider claims 117-118 Orfield as modified by Shdema teaches the networkable sound masking device, wherein said interface includes an address component configured to recognize said one or more control signals intended for the networkable sound masking device(in Shdema, see figs 1-4 and see page 9[0104]-[0108]); and the networkable sound masking device, wherein said output stage comprises an amplifier and said processor being configured to control said output stage in response to said masking volume signal(in Shdema, see figs 1-5 and page 4 [0039]-[0044]).

5. Claim 119 is rejected under 35 U.S.C. 103(a) as being unpatentable over Orfield (US PAT. 4,319,088) as modified by Shdema et al (US 2002/0072816) as applied to claim 116 above, and further in view of Ritter (US PAT. 4,686,693).

Consider claim 119 Orfield and Farinelli do not explicitly teach the networkable sound masking device, wherein said sound masking module comprises a random noise generator having an output coupled to an equalizer stage, and said processor being configured to control said equalizer stage in response to said masking frequency signal.

However, Ritter teach the networkable sound masking device, wherein said sound masking module comprises a random noise generator having an output coupled to an equalizer stage, and said processor being configured to control said equalizer stage in response to said masking frequency signal (see fig.1 and see col. 4 line 23-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Ritter into the teaching of Orfield and Shdema to provide the optimum adjustment of individual zone masking devices. Fine volume changes are easily made to meet the individual acoustic demands of the masking zone and the personal preferences of persons therein. The ease of adjustment makes it quite easy to slowly change the masking signal volume as needed, whereby the occupants of the masked area are not distracted by a sudden increase or decrease in background masking noise.

### ***Response to Arguments***

6. Applicant's arguments filed 05-26-2009 have been fully considered but they are not persuasive.

Applicant argued that Orfield does not disclose "a communication network", "a communication interface for receiving a plurality of control signals over said communication network including a masking volume signal and a masking frequency signal" or "a control unit having a communication interface for coupling to said communication network for transmitting said control signals to selectively control operation of said plurality of sound masking units" as recited in independent claim 108 (see the remarks page 7 ).

The examiner disagrees that. Orfield teaches a communication network for said physical environment (see fig.3); a plurality of sound masking units (see fig.3(14,16)), at least some of said sound masking units including a circuit (see figs.1-2) configured

for a sound masking signal generator(20) and a communication interface(by jack and potentiometers) for coupling to said communication network for receiving a plurality of control signals over said communication network including a masking volume signal(22,48) and a masking frequency signal(see fig.1,2(24,46)), and said sound masking signal generator(see fig.1 (14)) being responsive to said masking volume signal(22,48 in fig.1) and said sound masking frequency signal (24, 46) for generating a sound masking output signal(26), said sound masking output signal having a volume derived from said masking volume signal(22,48) and a frequency characteristic derived from said sound masking frequency signal(see figs 1-2 (24,46)); a control unit (14) configured to generate said control signals including said masking volume signal(22,48) and said masking frequency signal(24, 46)(see figs1-4 and see col.3 line 15-col 4 line 62). The combination meets the limitation as recited in claim 108.

Applicant further argued that Shdema does not remedy the deficiencies of Orfield (see the remarks page 8 second paragraph).

The examiner disagrees that. Shdema discloses an audio system comprising an audio management system 102, an audio source 106 and a plurality of computerized speakers 114; and the audio management system 102 transmits audio streams and speaker audio control data to the computerized speakers 114. Person skill in art knows that as taught by Shdema, the computerized speakers 114 would have been obvious generated sound masking signals. Shdema teaching the networking and centrally controlling sound masking units (see figs 1-5 and page 4 [0039]-[0044]).

Applicant further argued that if one skilled in the art were to modify Orfield as suggested by the Examiner to provide centralized control, this would defeat one of the key features of the Orfield system. It is a well-known tenet of patent law that where a suggested combination/modification of a reference leads to the destruction of a teaching in the reference, the suggested combination/modification would NOT have been obvious to one skilled in the art (see the remarks page 8-page 9).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Shdema et al. teaches the deficiencies of Orfield with respect to the claimed invention.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Orfield modified with the teaching of Shdema does not need to make adjustments through potentiometers, which are on the sound masking unit located in the ceiling, it can be adjusted by utilizing the control unit which allow an operator to make adjustments remotely to only the selected sound masking units in the network, or in multiple networks or zones, rather than all speakers in a network or zone for more convenience for user in order to using processor and software and control unit to control the mask network.

In view of the foregoing, it is submitted that independent claims 108, 114 and 116 are obvious in view of Orfield taken in combination with Shdema. Since claims 109-113 and 117- 119 are dependent claims, it is submitted that these claims are also obvious for the same reasons and see the final rejection.

### ***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cunningham et al. (US 4185167) is cited to show other related networked sound masking system.

9. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

**(571) 273-8300**

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See  
/LUN-SEE LAO/  
Examiner, Art Unit 2614  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 08-18-2009

/Vivian Chin/  
Supervisory Patent Examiner, Art Unit 2614